

which is fragmented to less than a few centimetres in size further suggests that the breccia is a hyaloclastite breccia rather than an autobreccia.

*Volcaniclastics:* Horizons of volcaniclastic material occur at various levels throughout both QR 1060 and QR 1060A. These, like the majority of volcaniclastic units found in the Que - Hellyer succession, appear to be debris flows dominated by locally derived material. These vary from open to closed framework (Fig. 11). The majority of the framework within the debris flow is angular to sub-rounded porphyritic intermediate (andesitic?) fragments up to 40 centimetres in size. Other framework types found include chloritically altered wispy to cusped volcanic fragments and buff coloured dacitic? fragments which occasionally show a relict banding. These debris flows have a matrix of mud and coarse sand sized material which comprises up to 30 - 40% of the open framework types.

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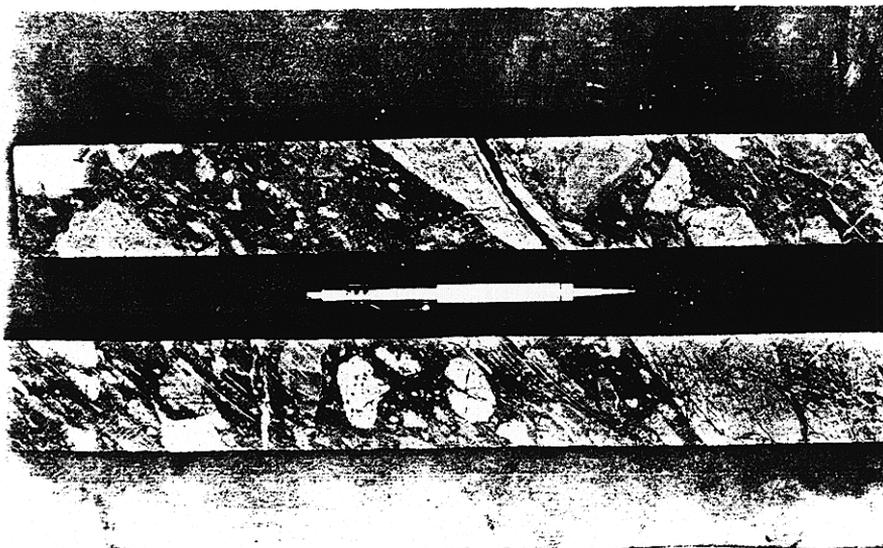


Figure 11: Open framework debris flow unit (QR 1060; ~731 metres). Comprised of porphyritic volcanic lithics which are extensively altered to "quellite" like assemblages (sericite - pyrite - clays). Matrix to debris flow is dark grey muds which makes up to 30 - 40% of the unit.

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These units are generally massive and occasionally have normally graded tops which grade rapidly, over 10's centimetres or less, to the main body of the debris flows. The thickness of these debris flows, in core, varies from around